PROJECT SUMMARY
ENGINEERING SUPPORT SERVICES PROJECT
FOR THE
WARM SPRINGS COMMUNITY WATER SYSTEM
CONFEDERATED TRIBES OF THE
WARM SPRINGS INDIAN RESERVATION
OREGON

P.L. 86-121
IHS PROJECT PO-17-M42
JULY 2017

I. Synopsis

The Confederated Tribe of Warm Springs (Tribe) has requested assistance from the Indian Health Service (IHS) under P.L. 86-121 to determine if excessive distribution system leakage is occurring and contributing to the high water demand being placed on the Dry Creek Water Treatment Plant. Previous engineering investigations have found that the Warm Springs community water system is likely subject to significant distribution system leakage, resulting in high treatment costs and operational difficulties in meeting community water demand during the summer months. This preliminary engineering project will also support concurrent preliminary engineering projects for evaluating alternatives to modernize or replace the Dry Creek water treatment plant by providing a basis for accurate estimation of community water demand.

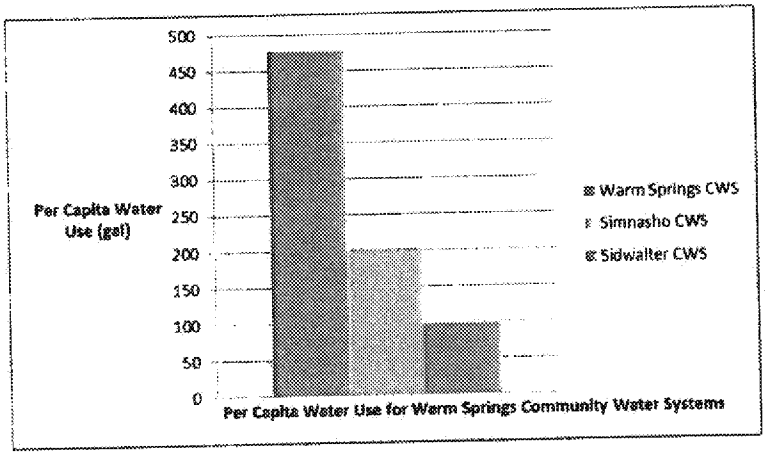
The estimated total project cost is $50,000.00. The Environmental Protection Agency (EPA) will fund the project with Safe Drinking Water Act (SDWA) funds. IHS will procure the leak detection services and provide overall project management. The Tribe will coordinate site access and provide infrastructure information and relevant records.

II. Project Background and Need

Warm Springs is a Tribal community located on the Warm Springs Reservation, Oregon. The community consists of approximately 600 Tribal homes and a variety of Tribal administration buildings and businesses. The Warm Springs community water system is supplied with water by the Dry Creek water treatment plant, a conventional treatment plant that was constructed in 1980. Raw water is supplied to the treatment plant via an intake located in an oxbow of the Deschutes River. The wastewater treatment system for the Warm Springs community consists of a mechanical treatment plant constructed in 2002. Treated effluent is discharged to Shitike Creek under the terms of a NPDES discharge permit.

In 2014 the Tribe procured engineering services from Cascade Design Professionals resulting in a Strategic Infrastructure Improvement Plan. The Plan found that the Warm Springs community water system's average consumption, after accounting for commercial and industrial connections, was 1,335 gallons per day (gpd) per connection, and 476 gpd per capita. The report compares this with water usage of the other two community water systems located on the Warm Springs Reservation, the Sidwalter and Simnasho/Schoolie Flats systems.

The consumptions for these systems for the same year was 506 gpd per connection/98 gpd per capita and 1,130 gpd per connection/203 gpd per capita, respectively. Water distribution losses in the Warm Springs CWS are suspected as being the primary cause of consumption variations between the systems.



Based on the relative frequency of water main breaks, the Tribe has requested leak detection efforts prioritize the West Hills and Trailer Court neighborhoods. This infrastructure was originally constructed in the late 1970s and consists of combinations of 4-inch and 6-inch asbestos cement and galvanized steel water mains. To date, the West Hills neighborhood consists of 110 homes and the Trailer Court neighborhood consists of 70 homes. Additional areas will be targeted for investigation depending on the availability of future funding.

Another known area of deficient water infrastructure is the Bureau of Indian Affairs (BIA) Campus Area, which is the oldest portion of the water system. Under the terms of a settlement agreement between the BIA and the Tribe, the BIA will assess and repair the Campus Area infrastructure. BIA owned infrastructure located in the Campus Area will not be evaluated under this project.

Due to age and major components becoming obsolete, the Dry Creek water treatment plant has become increasingly costly and difficult to operate and maintain. Warm Springs utility operations staff struggle to keep the plant operating during times of high water demand. Due to growth in the community and concerns that the treatment plant will be unable to meet water system demand, the Tribe requested that IHS assist with engineering support and design for an upgrade or replacement for the water treatment plant. IHS projects PO-12-Z00 and PO-17-EN2 are currently underway to evaluate the chemical characteristics of the Deschutes River, evaluate water source alternatives, and to evaluate facilities alternatives for upgrading or replacing the water treatment plant. Reducing demand through water distribution repairs provides a basis for accurate estimation of community water demand. An accurate estimation of community water demand is a critical component of the long term water treatment plant capital improvement planning efforts currently underway.

III. Scope of Work

This project will provide leak detection services and related cost estimating to locate, quantify, and prioritize repairs of leaks in the water distribution infrastructure serving the community of Warm Springs. The final deliverable will be a preliminary engineering report (PER) that provides basis for determining how much of the demand placed on the Dry Creek water treatment plant is the result of distribution system leakage in the West Hills and Trailer Court neighborhoods. Determining the true system demand will be used in subsequent planning efforts related to the renovation or replacement of the Dry Creek water treatment plant. Subsequent leak detection efforts are planned for additional areas of the distribution system subject to the availability of future funding. The Tribe intends to take the results of the leak detection survey and make repairs. IHS will perform visual condition assessments during the repairs to assess condition of water mains and service lines. The field condition assessments will be included in the PER to provide recommendations and associated cost estimates for replacing water mains and water service lines that are deteriorated. The PER will provide substantiation for listing the deficient water mains and service lines on the IHS Sanitation Deficiency System (SDS) to compete for funding.

IV. Environmental Plan

The data collected and the results of the above tasks (pre-design activities) will be used to assist the Tribe and/or IHS to provide a more thorough environmental review and determination. The activities under this project development plan are typical IHS technical assistance yet are documented to give the entire project its best chance of success with concrete obligations by the project parties. The existence of a planning project does not ensure a construction project.

Therefore, in accordance with the Department of Health and Human Services policies and procedures in General Administration Manual, Part 30, the Council on Environmental Quality regulations at 40 CFR 1500-1508, and procedures of the Indian Health Service published in the Federal Register, Vol. 58, No. 3, Page 569, these project development activities belongs to category of actions "E", which normally do not significantly impact the human environment.

If unanticipated conditions or factors are identified during the course of the project that would affect this determination, work on the affected portion will be halted and the appropriate parties notified. Work on the project or that portion of the work so affected will resume only upon resolution of the problem.

V. Schedule

MOA Approval	September 2017
Services Contract	January 2018
Services Completed	September 2018
Preliminary Engineering Report	January 2019
Final Report	September 2019

VI. Procurement Plan

The IHS will provide procurement services through federal contracting procedures.

VII. Cost Estimate and Funding Summary

A. Cost Estimate

A&E Services Description	Estimated Cost
Leak Detection Survey for West Hills and Trailer Court neighborhoods.	$ 47,200.00
Project Engineering Support (approx. 6%)	$ 2,800.00
Total Project Cost	$ 50,000.00

B. Funding Summary:

EPA SDWA Funds: $50,000.00
TOTAL: $50,000.00

VIII. Signature Page

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